IN THE CLAIMS

Please amend the claim as follows:

1. (Currently Amended) An optical cross-connect device for communication between first and second optical networks communicating with each other using forward and backward optical signals each comprising a plurality of channels, said optical cross-connect device comprising:

a first circulating part having first through fourth ports that are configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port, the first circulating part being connected at the first and third ports thereof to a first optical network;

a second circulating part having first through fourth ports that are configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port, the ~~first~~ second circulating part being connected at the first and third ports thereof to a second optical network while being connected at the second and fourth ports thereof to the second and fourth ports of the first circulating part, respectively;

a first reflecting part being connected to respective second ports of the first and second circulating parts, being configured to input the forward optical signal, ~~and adapted to selectively (1)~~ being configured to reflect ~~each~~ at least one channel of ~~a~~ the forward optical signal ~~input thereto[[;]]~~, and being configured to ~~[[(2)]]~~ allow ~~the~~ at least one channel that is not reflected to pass therethrough; and

a second reflecting part being connected to respective fourth ports of the first and second circulating parts, ~~and adapted to selectively (1)~~ being configured to input the backward optical signal, being configured to reflect ~~each~~ at least one channel of ~~a~~ the backward optical signal

~~input thereto;~~, and ~~(2)~~ being configured to allow ~~the~~ at least one channel that is not reflected to pass therethrough.

2. (Currently Amended) The optical cross-connect device according to claim 1, wherein each of the first and second reflecting parts comprises a plurality of fiber Bragg gratings (FBG), each of which being adapted to allow an optical signal input thereto to pass through or to reflect only a predetermined channel of the optical signal in accordance with an ON or OFF state thereof.

3. (Original) The optical cross-connect device according to claim 1, wherein the first circulating part comprises:

a first circulator having a plurality of ports including the first and second ports of the first circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port; and

a second circulator having a plurality of ports including the third and fourth ports of the first circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port;

wherein the first and second circulators are connected to each other in a double-port-connected configuration.

4. (Currently Amended) The optical cross-connect device according to claim[[1]] 3, wherein the second circulating part comprises:

a ~~first~~ third circulator having a plurality of ports including the first and second ports of the second circulating part being configured to output an optical signal, which is input to a

higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port; and

a ~~second~~ fourth circulator having a plurality of ports including the third and fourth ports of the second circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port;

wherein the ~~first and second~~ third and fourth circulators are connected to each other in a double-port-connected configuration.

5. (Original) The optical cross-connect device according to claim 1, wherein the first circulating part comprises:

a first circulator having a plurality of ports including the first port of the first circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port;

a second circulator having a plurality of ports including the second port of the first circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port; and

a third circulator having a plurality of ports including the third and fourth ports of the first circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port,

wherein the first through third circulators are port-connected to one another.

6. (Currently Amended) The optical cross-connect device according to claim[[1]] 5, wherein the second circulating part comprises:

a ~~first~~ fourth circulator having a plurality of ports including the first port of the second circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port;

a ~~second~~ fifth circulator having a plurality of ports including the second port of the second circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port; and

a ~~third~~ sixth circulator having a plurality of ports including the third and fourth ports of the second circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port,

wherein the ~~first~~ fourth through ~~third~~ sixth circulators are port-connected to one another.

7. (Original) The optical cross-connect device according to claim 1, wherein the first circulating part comprises:

a first circulator having a plurality of ports including the first port of the first circulating part while configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port;

a second circulator having a plurality of ports including the third port of the first circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port; and

a third circulator having a plurality of ports including the second and fourth ports of the

first circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port,

wherein the first through third circulators are port-connected to one another.

8. (Currently Amended) The optical cross-connect device according to claim[[1]] 7, wherein the second circulating part comprises:

a ~~first~~ fourth circulator having a plurality of ports including the first port of the second circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port;

a ~~second~~ fifth circulator having a plurality of ports including the third port of the second circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port; and

a ~~third~~ sixth circulator having a plurality of ports including the second and fourth ports of the second circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port,

wherein the ~~first~~ fourth through ~~third~~ sixth circulators are port-connected to one another.

9. (Original) The optical cross-connect device according to claim 1, wherein the first circulating part comprises:

a first circulator having a plurality of ports including the first port of the first circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port;

a second circulator having a plurality of ports including the second port of the first

circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port;

a third circulator having a plurality of ports including the third port of the first circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from lower-order port thereof arranged adjacent to the higher-order port; and

a fourth circulator having a plurality of ports including the fourth port of the first circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port,

wherein the first through fourth circulators are port-connected to one another.

10. (Currently Amended) The optical cross-connect device according to claim[[1]] 9, wherein the second circulating part comprises:

a ~~first~~ fifth circulator having a plurality of ports including the first port of the second circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port;

a ~~second~~ sixth circulator having a plurality of ports including the second port of the second circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port;

a ~~third~~ seventh circulator having a plurality of ports including the third port of the second circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port; and

a ~~fourth~~ eight circulator having a plurality of ports including the fourth port of the second circulating part being configured to output an optical signal, which is input to a higher-order port thereof, from a lower-order port thereof arranged adjacent to the higher-order port,

wherein the ~~first~~ fifth through ~~fourth~~ sixth circulators are port-connected to one another.

11. (New) The optical cross-connect device according to claim 1, wherein the optical cross-connect device is configured such that the forward optical signals is input to the first reflecting part only once.

12. (New) The optical cross-connect device according to claim 1, wherein the optical cross-connect device is configured such that the backward optical signals is input to the second reflecting part only once.

13. (New) The optical cross-connect device according to claim 1, wherein the optical cross-connect device is configured to input forward and backward optical signals.